Residential Solar Requirements

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PERMIT REQUIREMENTS

Permits are required for all solar panel installations. This handout covers the basic drawings and some key code items needed for a successful submittal. Flush mounted solar panel installations (less than 10 kilowatts) for single-family homes are reviewed over the counter when submitted on Tuesdays from 9:00 a.m. to 11:30 a.m. as part of Hayward's "Solar Tuesday" program. If not submitted on Tuesday, the application will be taken in and reviewed by the following Tuesday.

FEES

Single-family residential solar panel permit fees are subsidized by the City to encourage their installation. There is a total flat fee of **$300** for flush mounted systems. This includes plan review and inspection. For installations that require structural calculations such as non-flush mounted panels or unconventional mounting, additional structural review fees will apply.

GLARE STUDY IN HAYWARD'S AIRPORT SAFETY ZONE

Some solar panel installations near the airport have the potential to affect the vision of pilots, air traffic controllers, and passengers. They may also interfere with VHF communications between pilots and air traffic controllers. If a proposed solar project is located within Hayward's "Airport Safety Zone", you must obtain an approval from the Federal Aviation Administration (FAA) and provide it to the City before a PV permit can be issued. Please use our GIS Portal to confirm the following http://webmap.hayward-ca.gov :

- **Verify the address is within the City of Hayward and not within unincorporated Alameda County.**
- **Verify if the address is within the "Airport Safety Zone". If not, you can proceed with your application.**

If the project is within the Airport Safety Zone, you must complete the following steps before the City can process your permit:

1. **Prepare a glare study to accompany Form 7460-1 and submit the package to the FAA for review and approval.** The Solar Glare Hazard Analysis Tool (SGHAT) can be found on the FAA website under Data, Tools & Resources." https://www.faa.gov/airports/environmental/
2. **Complete FAA Form 7460-1. You can find the link to the form here:** https://www.faa.gov/forms/index.cfm/go/document.information/documentID/186273
   Once you have received a finding of "No Hazard" from the FAA, provide it to the City of Hayward and we will process your permit.

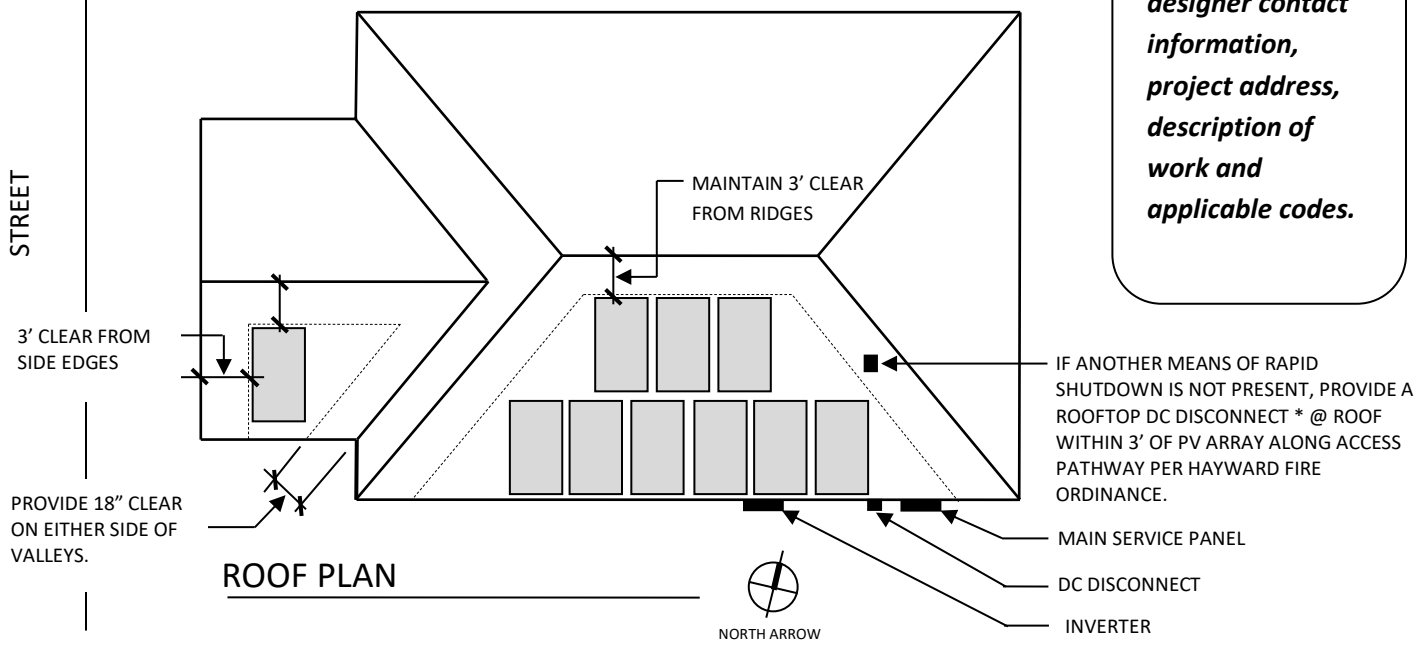
DRAWINGS

Provide the following drawings stapled together in a single set of plans. Also, include cut sheets for all equipment specified in the project. These documents can be separate from the plans. The submittal will require **3 sets of plans**. The plans must contain the following minimum information:

1. ROOF PLAN

The required clearances must be maintained for Fire Department access as shown on the drawing below. Show the location of all system components on the plan such as: disconnects, service panel and the inverter. See notes for requirements.

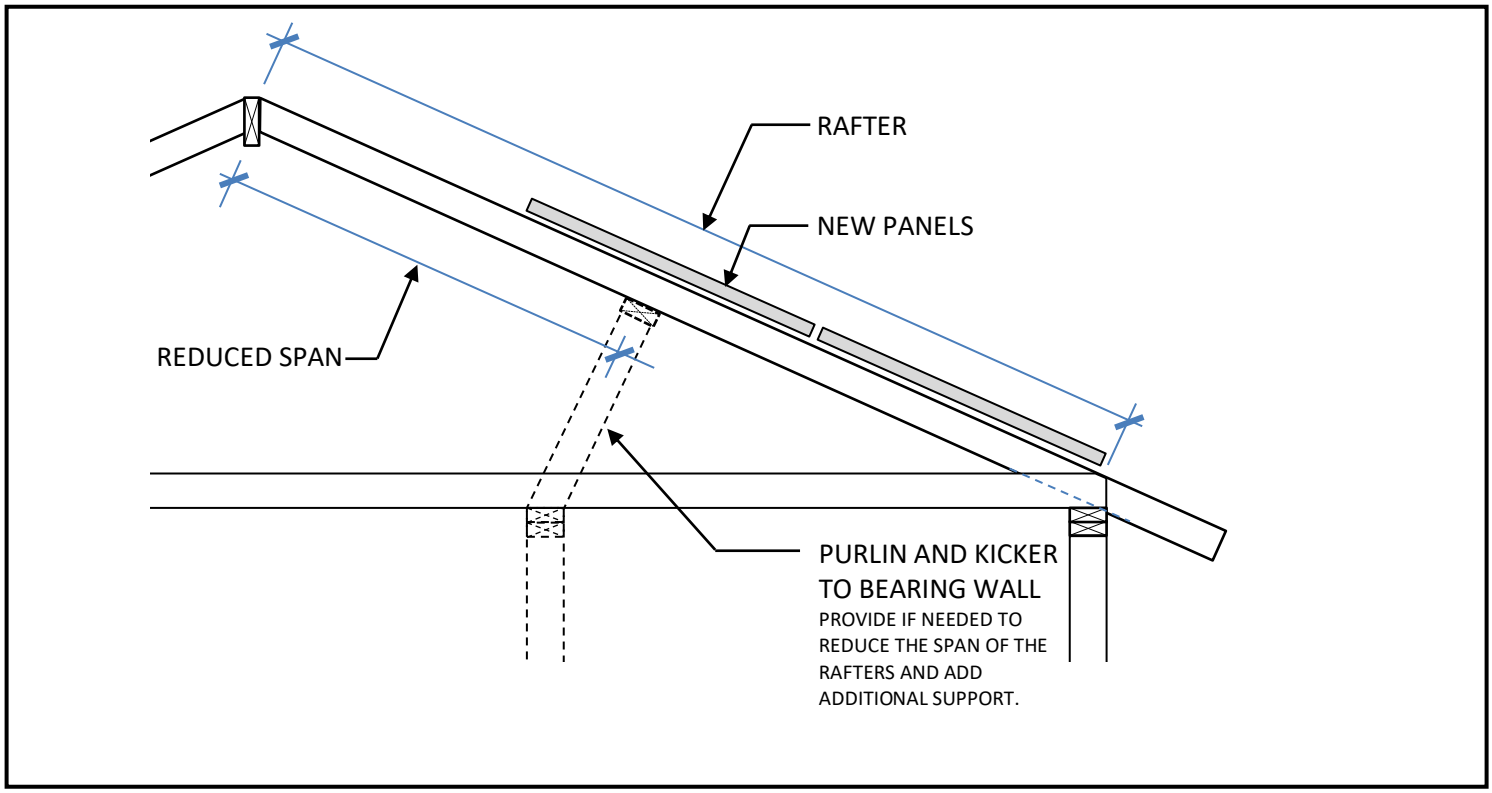
The first sheet of the set must include the designer contact information, project address, description of work and applicable codes.



2. ATTACHMENT DETAILS and STRUCTURAL INFORMATION

- Only use listed mounting hardware.
- Verify that each component is compatible with the system.
- Provide cut sheets for each product and install according to the manufacture's installation instructions.
- Verify flashing, and counter flashing at roof penetrations. Install per manufactures installation instructions.

NOTE: Flush mounted panels, as shown in the example drawing below, do not require structural calculations. However, **panels that are tilted at a steeper angle than the roof will require structural calculations to verify wind load resistance**. The calculations must be prepared by an engineer and included with the submittal. Calculations must be stamped and signed by the engineer in order to be accepted for review. The City of Hayward will charge hourly plan review fees for residential solar installations that require structural calculations.



3. SINGLE LINE DIAGRAM

- **NOTE:** It is the contractor's responsibility to fully comply with the requirements of Articles 690 & 705 in the California Electrical Code. Confirm that all relevant code items are communicated in the single line drawing.

- Provide cut sheets for each component indicated on the single line diagram. This includes: inverters, disconnects and PV modules.

4. REQUIRED WARNING LABELS

- Include diagrams of warning labels on the plans per Article 690 of the California Electrical Code. Examples and required locations are shown below.

CAUTION: SOLAR CIRCUIT

Conduit raceways, enclosures, cable assemblies, and junction boxes shall be marked with this label.

CAUTION: SOLAR ELECTRIC SYSTEM

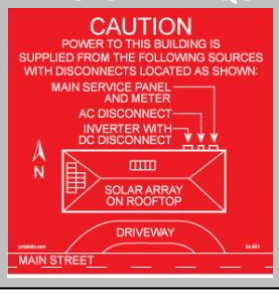
The electrical main service disconnect shall be marked with this label.

WARNING:
ELECTRIC SHOCK HAZARD
DO NOT TOUCH THE TERMINAL

TERMINALS ON BOTH THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

The inverter shall be marked with this label

DIRECTORY PLAQUE



When service disconnecting means and PV system disconnecting means are NOT located at the same location, install a directory plaque at the service and PV system disconnecting means. ***Art. 690.56(B)***

PHOTOVOLTAIC SYSTEM EQUIPPED WITH RAPID SHUTDOWN

The electrical main service panel shall be marked with this label. ***Art. 690.56(C)***

INSPECTION

☐ **Final Building Inspection** – A final Building Inspection shall be called for before 11:30pm the night before the requested day of inspection.

☐ **Safe Roof Access** – The permit holder shall provide a safe ladder, free of defects and rated for a minimum of 250 pounds. The ladder shall extend 3 feet above the roof and shall be secured to the building. Without a safe means to access the roof, the inspection may be failed.

☐ **Smoke and Carbon Monoxide Alarms** -- The residence shall be open for the electrical inspection of Smoke & Carbon Monoxide detectors in all locations designated by the California Residential Code. (i.e. halls & bedrooms at each level).

EXCEPTION: A Smoke and Carbon Monoxide Alarm Self-Certification may be submitted to Building Inspector during Final Inspection